CLAIMS

What is claimed is:

1. A network interface apparatus, comprising:

a bus interface circuit for operatively connecting the network interface card to a bus;

a power controller operatively connected to the bus interface circuit;

a current sensor operatively connected to the bus interface circuit to sense a current level in the bus interface circuit; and

means for determining whether the sensed current level exceeds a predetermined level and for causing the power controller to cycle power to the bus interface circuit in response to determining that the sensed current level exceeds the predetermined level.

2. A network interface apparatus of claim 1, wherein the bus interface circuit is a physical layer controller and the network interface apparatus further comprises:

a link layer controller operatively connected to the bus via the physical layer controller;

a second power controller operatively connected to the link layer controller; and

a second current sensor operatively connected to the link layer controller to sense a second current level in the link layer controller,

wherein the means for determining and for causing further comprises means for determining whether the second sensed current level exceeds a predetermined level and for causing the power controller to cycle power to the physical layer controller and the second power controller to cycle power to the link layer controller in response to determining that one of the sensed current level or the second sensed current level exceeds the predetermined level.

3. A network interface apparatus of claim 2, further comprising a switch operatively configured to selectively allow one of the first and second current sensors to report the respective sensed current level to the means for determining whether the sensed current level exceeds the predetermined level and for causing the power controller to cycle power to the bus interface circuit in response to determining that the sensed current level exceeds the predetermined level.

4. A network interface apparatus of claim 3, further comprising

a terminal 202 operatively connected between another bus and the switch; and

a latch operatively configured to receive an enable signal via the terminal and to provide the enable signal to the switch to allow one of the first and second current sensors to continuously report the respective sensed current level on the other bus.

5. A network interface apparatus of claim 1, further comprising a bus switch operatively connected to the power controller and the bus upstream from the bus interface circuit, the bus switch being operatively configured to isolate the bus interface circuit when the power controller cycles power to the bus interface circuit.

6. A network interface apparatus of claim 5, further comprises a physical layer controller operatively connected between the bus interface circuit and the bus, wherein the bus interface circuit is a link layer controller and re-initializing the bus interface circuit comprises inhibiting a current from the physical layer controller from reaching the link layer controller.

7. A network interface apparatus of claim 5, further comprises a link layer controller operatively connected to the bus upstream from the bus interface circuit, wherein the bus interface circuit is a physical layer controller and re-initializing the bus interface circuit comprises inhibiting a current from the link layer controller from reaching the physical layer controller.

8. A network interface apparatus of claim 1, further comprising means for selectively causing the current sensor to sense a current level that exceeds the predetermined level.

9. A network interface apparatus of claim 1, further comprising:

a second bus interface circuit for operatively connecting the network interface card to a second bus;

a second power controller operatively connected to the second bus interface circuit; and

a second current sensor operatively connected to the second bus interface circuit to sense a second current level in the second bus interface circuit; and

means for determining whether the sensed second current level exceeds a second predetermined level and for automatically causing the second power controller to cycle power to the

second bus interface circuit in response to determining that the sensed second current level exceeds the second predetermined level.

10. A network interface apparatus of claim 1, wherein the current level in the bus interface circuit and the second current level in the second bus interface circuit are sensed substantially simultaneously.

11. A method in a data processing system including a network having a bus, the method comprising:

sensing a current level in a bus interface circuit operatively connecting a node on the network to the bus;

determining whether the sensed current level exceeds a predetermined level; and

re-initializing the bus interface circuit in response to determining that sensed current level exceeds the predetermined level.

12. A method of claim 11 wherein the bus interface circuit is one of a plurality of bus interface circuits of the node operatively connecting the node to the bus and sensing a current level comprises selecting to receive the sensed current level associated with one of the bus interface circuits.

13. A method of claim 11 wherein re-initializing the bus interface circuit comprises isolating the bus interface circuit from a component operatively connected to the bus upstream from the bus interface circuit.

14. A method of claim 11 wherein re-initializing the bus interface circuit comprises cycling power to the bus interface circuit.

15. A method of claim 11 wherein the one of the bus interface circuits is a physical layer controller.

16. A method of claim 15 wherein re-initializing the bus interface circuit comprises inhibiting a current from the bus from reaching the physical layer controller.

17. A method of claim 16 wherein another of the bus interface circuits is a link layer controller and re-initializing the bus interface circuit comprises inhibiting a current from the link layer controller from reaching the physical layer controller.

18. A method of claim 11, further comprising providing a test signal to the bus interface circuit to cause the sensed current level to exceed the predetermined level.

19. A method of claim 11 wherein re-initializing the bus interface circuit is completed within a period equal to or greater than 10 milliseconds.

20. A method of claim 11, further comprising sensing a second current level in a second bus interface circuit operatively connecting the node to a second bus of the network;

determining whether the sensed second current level exceeds the predetermined level; and

re-initializing the second bus interface circuit in response to determining that sensed second current level exceeds the predetermined level.

21. A method of claim 20, wherein the current level in the bus interface circuit and the second current level in the second bus interface circuit are sensed substantially simultaneously.

22. A computer-readable medium containing instructions causing a program in a data processing system to perform a method, the data processing system including a network having a bus, the method comprising:

sensing a current level in a bus interface circuit operatively connecting a node on the network to the bus;

determining whether the sensed current level exceeds a predetermined level; and

re-initializing the bus interface circuit in response to determining that sensed current level exceeds the predetermined level.

23. A computer-readable medium of claim 22 wherein the bus interface circuit is one of a plurality of bus interface circuits of the node operatively connecting the node to the bus and sensing a current level comprises selecting to receive the sensed current level associated with one of the bus interface circuits.

24. A computer-readable medium of claim 22 wherein re-initializing the bus interface circuit comprises isolating the bus interface circuit from a component operatively connected to the bus upstream from the bus interface circuit.

25. A computer-readable medium of claim 22 wherein re-initializing the bus interface circuit comprises cycling power to the bus interface circuit.

26. A computer-readable medium of claim 22 wherein the one of the bus interface circuits is a physical layer controller.

27. A computer-readable medium 26 wherein re-initializing the bus interface circuit comprises inhibiting a current from the bus from reaching the physical layer controller.

28. A computer-readable medium 27 wherein another of the bus interface circuits is a link layer controller and re-initializing the bus interface circuit comprises inhibiting a current from the link layer controller from reaching the physical layer controller.

29. A computer-readable medium of claim 22, further comprising providing a test signal to the bus interface circuit to cause the sensed current level to exceed the predetermined level.

30. A computer-readable medium of claim 22 wherein re-initializing the bus interface circuit is completed within a period equal to or greater than 10 milliseconds.

31. A computer-readable medium of claim 22, further comprising sensing a second current level in a second bus interface circuit operatively connecting the node to a second bus of the network;

determining whether the sensed second current level exceeds the predetermined level; and

re-initializing the second bus interface circuit in response to determining that sensed second current level exceeds the predetermined level.

32. A computer-readable medium of claim 31, wherein the current level in the bus interface circuit and the second current level in the second bus interface circuit are sensed substantially simultaneously.